



Red Hat Architectures and Patterns

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Red Hat User Group

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SPEAKER INTRODUCTION

Anthony Herr

Technology Strategist/Product Manager

- Support, Consulting, Product Management
- 6 years with Red Hat
- Focused on the portfolio



SPEAKER INTRODUCTION

Chris Henderson

Sr. Technical Marketing Manager

- Over 20 years of Enterprise-class Architecture, Operations, Security experience
- 12 years with Red Hat
- Martial Arts enthusiast



RED HAT ~~HOME~~ ARCHITECTURAL DESIGN



Considerations:	One or more rooms	One or more Products
Style:	Cottage, Farmhouse, Colonial	Automation, Cloud Infrastructure, AI/ML
Model:	Specific Named Floor Plans ("The Huntley" or "The Winstead")	Specific Named Solution Plans ("Secured Software Supply Chain" or "Industrial Edge")
Customizations:	Increase SqFt, Curved Staircase, etc.	Adjust configuration/services utilized
Supportability:	Engineering ensures it's built to code	Consulting/Support/Engineering determine supportability

Design

Implementation

80

20



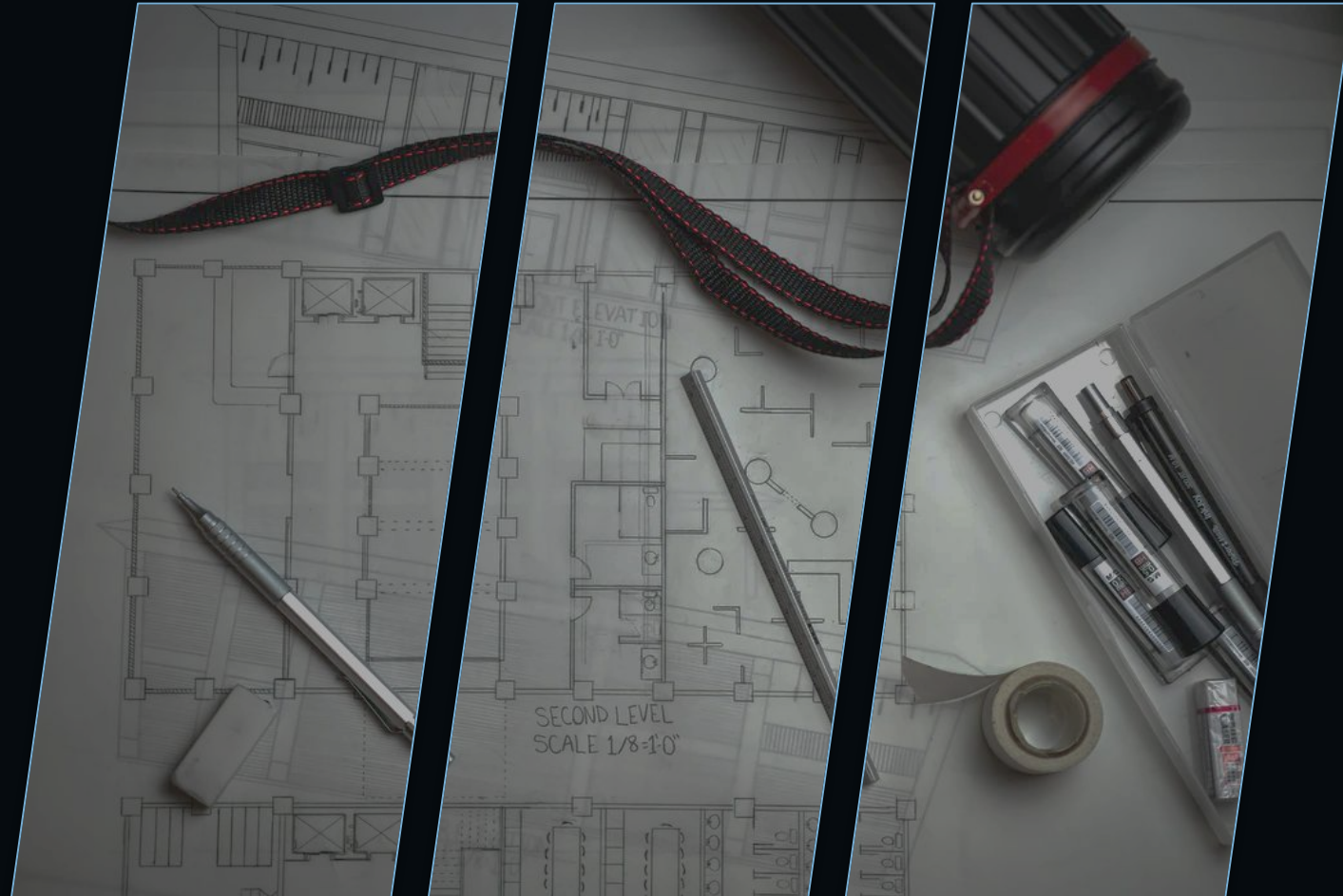
- **80% Design of Core Architectures**
- **Simple and Repeatable**
- **Foundational Red Hat Recommendations and Best Practices**



- 20% Custom Implementations
- Specific Customer Requirements

Removes ~80% of the work spent redesigning the core of these solutions

RED HAT ARCHITECTURES ARE TEMPLATES



Generalized Customer Deployments

Refined Diagrams

Architect Guided Videos

Architecture Demonstrations

Red Hat Architectures

[Currently available library](#)

Application Development

- Keeping the SAP core clean with ROSA
- Red Hat OpenShift Service on AWS Implementation
- API Management Platform for SAP
- Azure Red Hat OpenShift Implementation
- Building Your Cloud Native Applications
- Real-time Stock Control
- Delivering Store Health and Safety Compliance
- Supply Chain Integration
- Enabling Medical Imaging Diagnostics with Edge

Edge

- Telco OSS/BSS Service Assurance on Public Cloud
- Telco 5G N6 LAN Consolidation with F5
- Extending Cloud to Data Center at Edge
- Industrial Edge
- Providing Intelligent Data as a Service
- Enabling Medical Imaging Diagnostics with Edge
- SCADA Interface Modernisation
- Integrating a Modern Payments Architecture
- Integrating Retail Data at Scale
- Modernizing a Retail Point of Sale Infrastructure

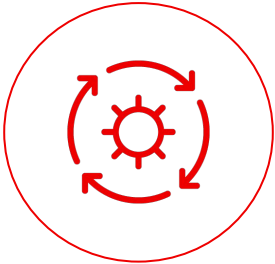
Automation

- Adopting Cloud for Application Workloads
- Automating Cloud Deployments Across Data Centers
- Event Driven Automation
- Hybrid Multicloud Management with GitOps
- Intelligent Automation Workflow for Claims
- Near Zero Downtime Maintenance for SAP
- Remote Server Management
- Self-Healing Infrastructure
- Smart Management for SAP

Architecture Center Demo

Event Driven Automation

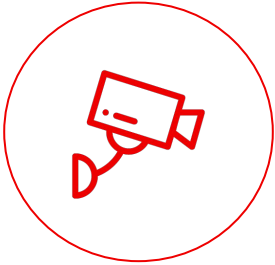
Business Drivers



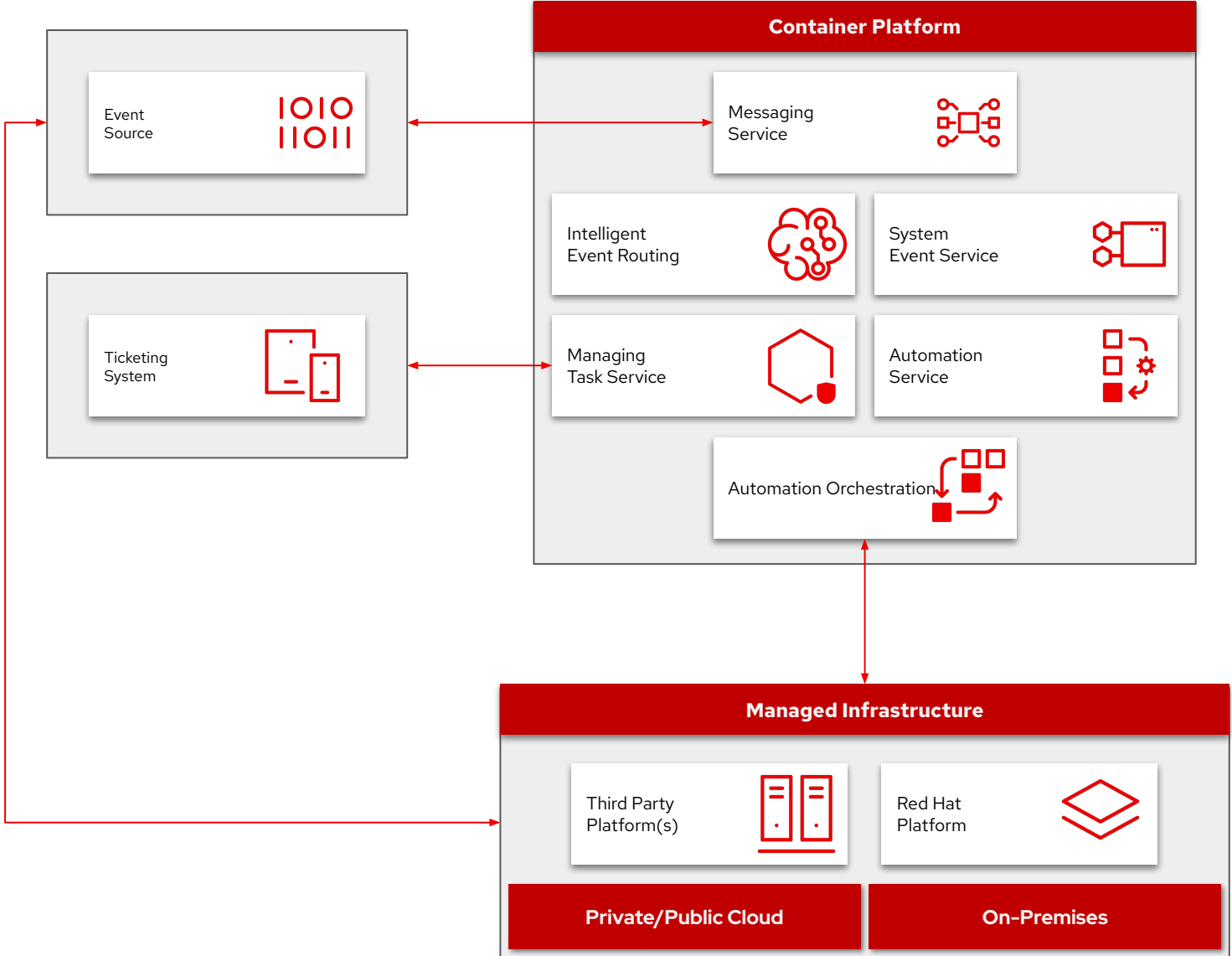
Automate the remediation of events from monitored hosts



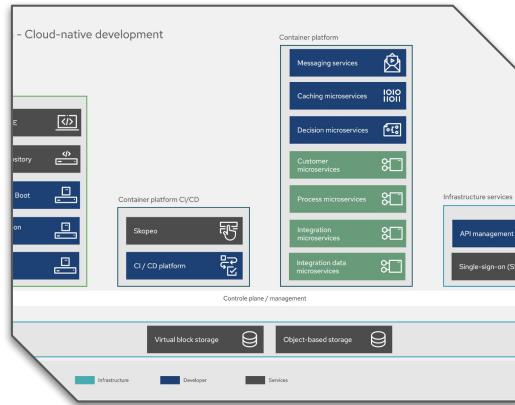
Scalable patching and security compliance updates



Security and compliance enforcement and emergency response

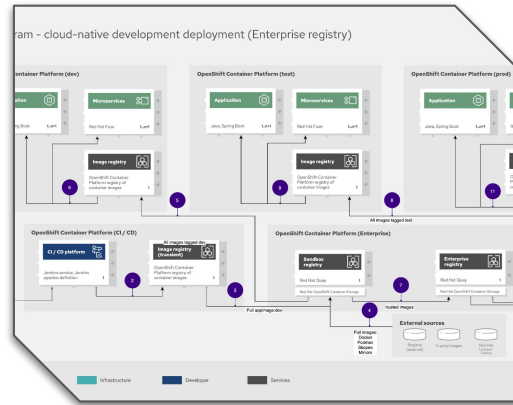


THREE LEVELS OF ARCHITECTURAL DIAGRAMS



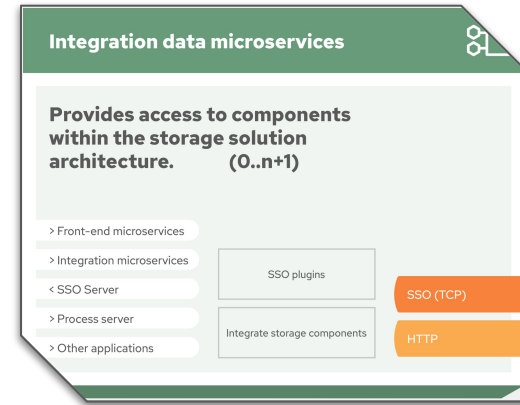
Logical view

Product-agnostic technology stack
 High level abstractions of services and platforms.
 No networking or data flows.
 Service descriptions can be added.



Physical / Schema

Describes the main nodes and services, as well as their interactions and network connections.
 Product details can be included.
 Cardinality and logical groupings can be described.

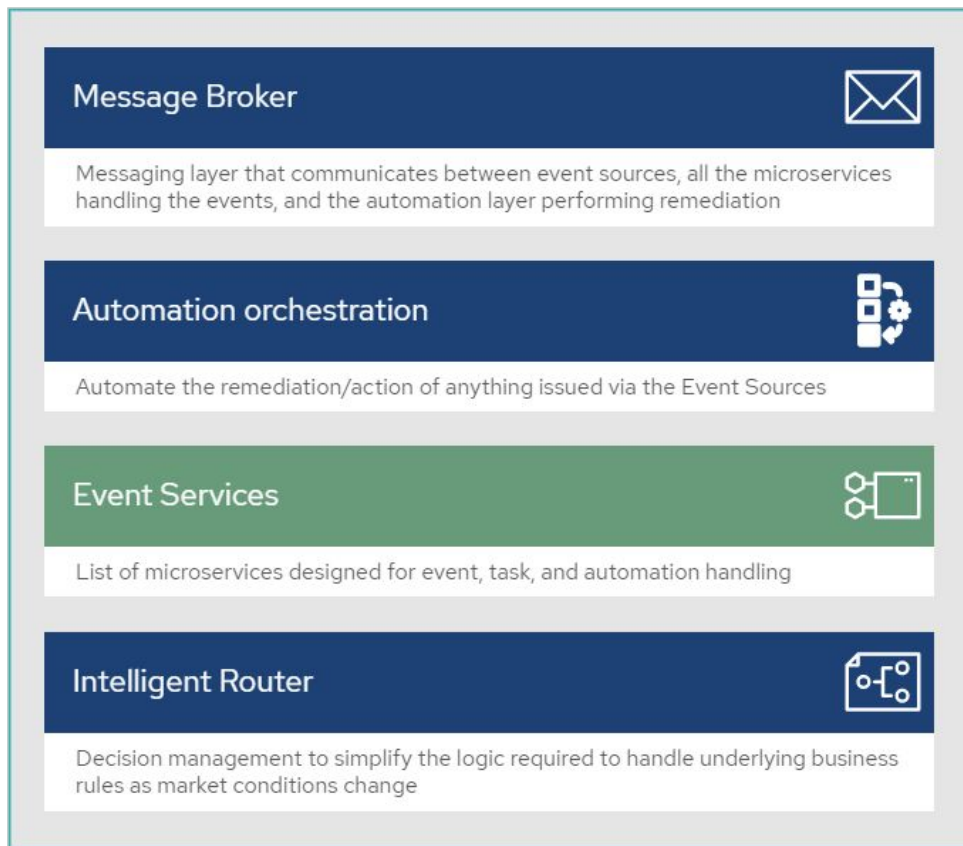


Node or Service detail

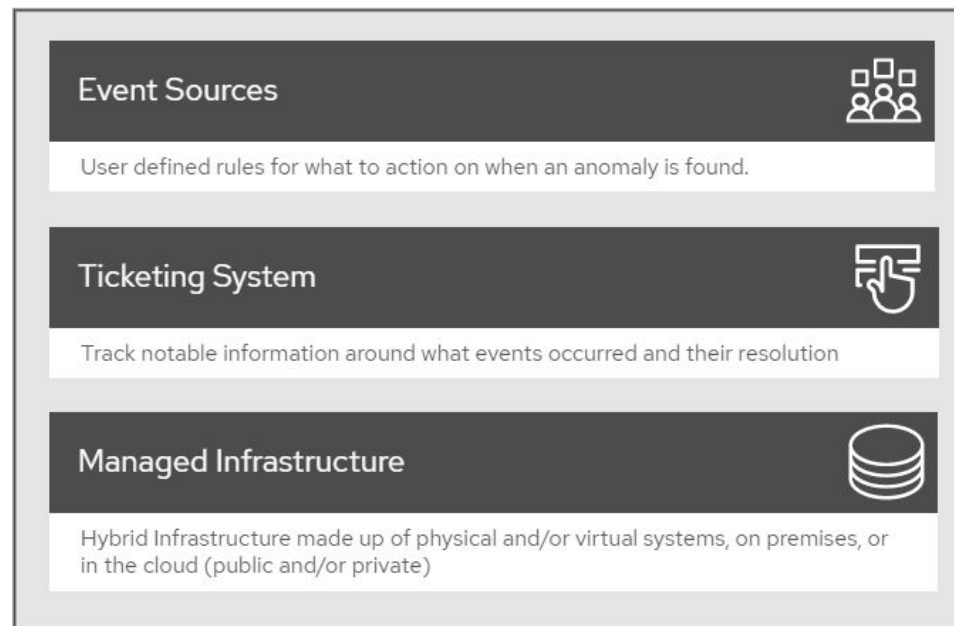
Detailed look at individual service.
 Includes deployment mode, storage and networking details.

Logical - Event Driven Automation

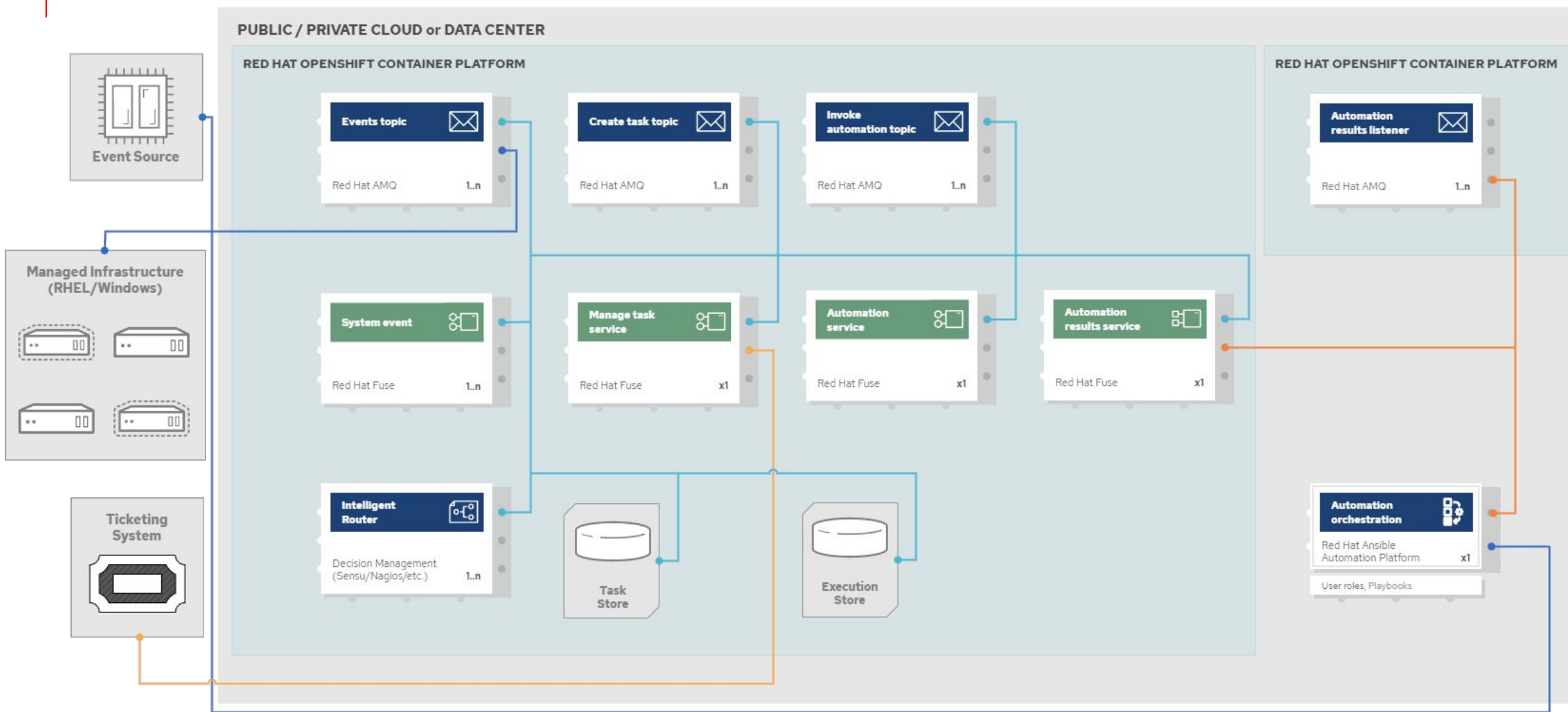
Data Center or Public Cloud



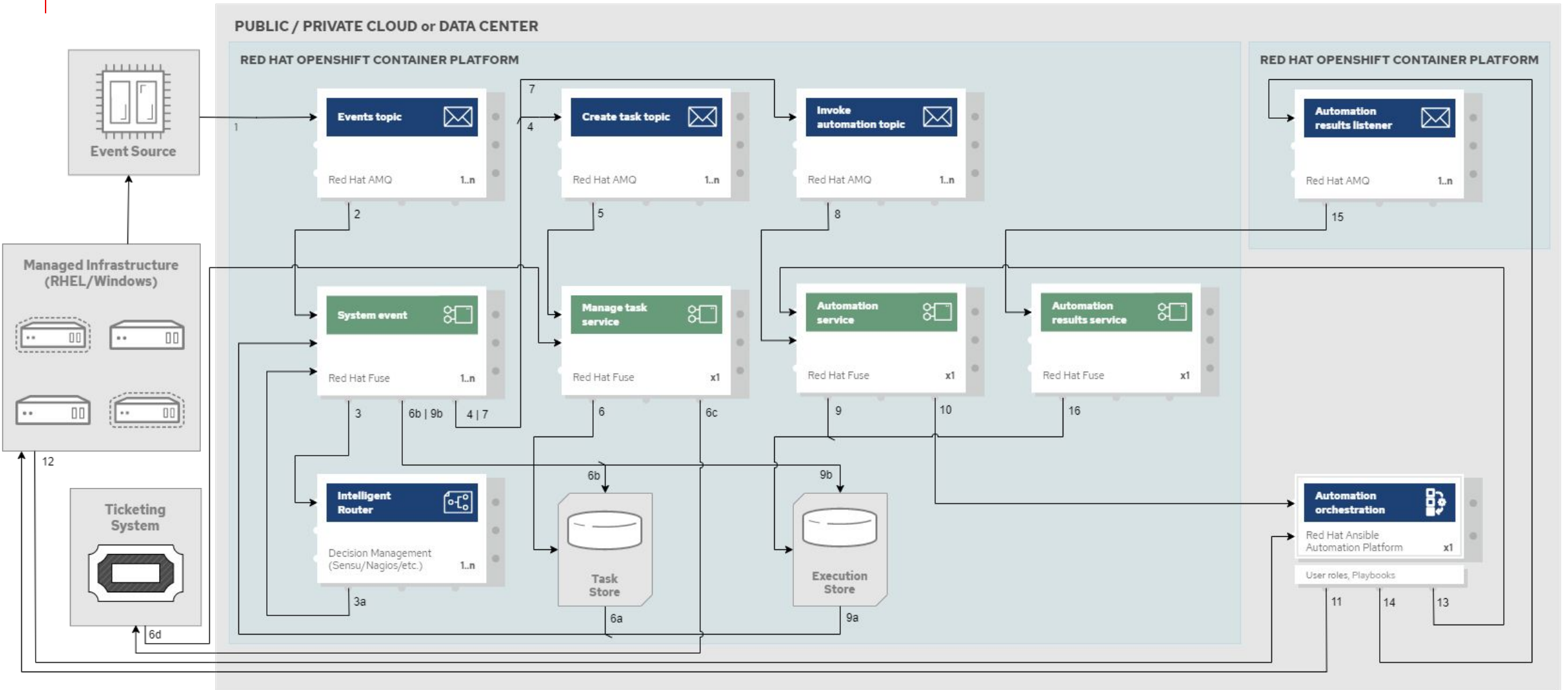
External Platform



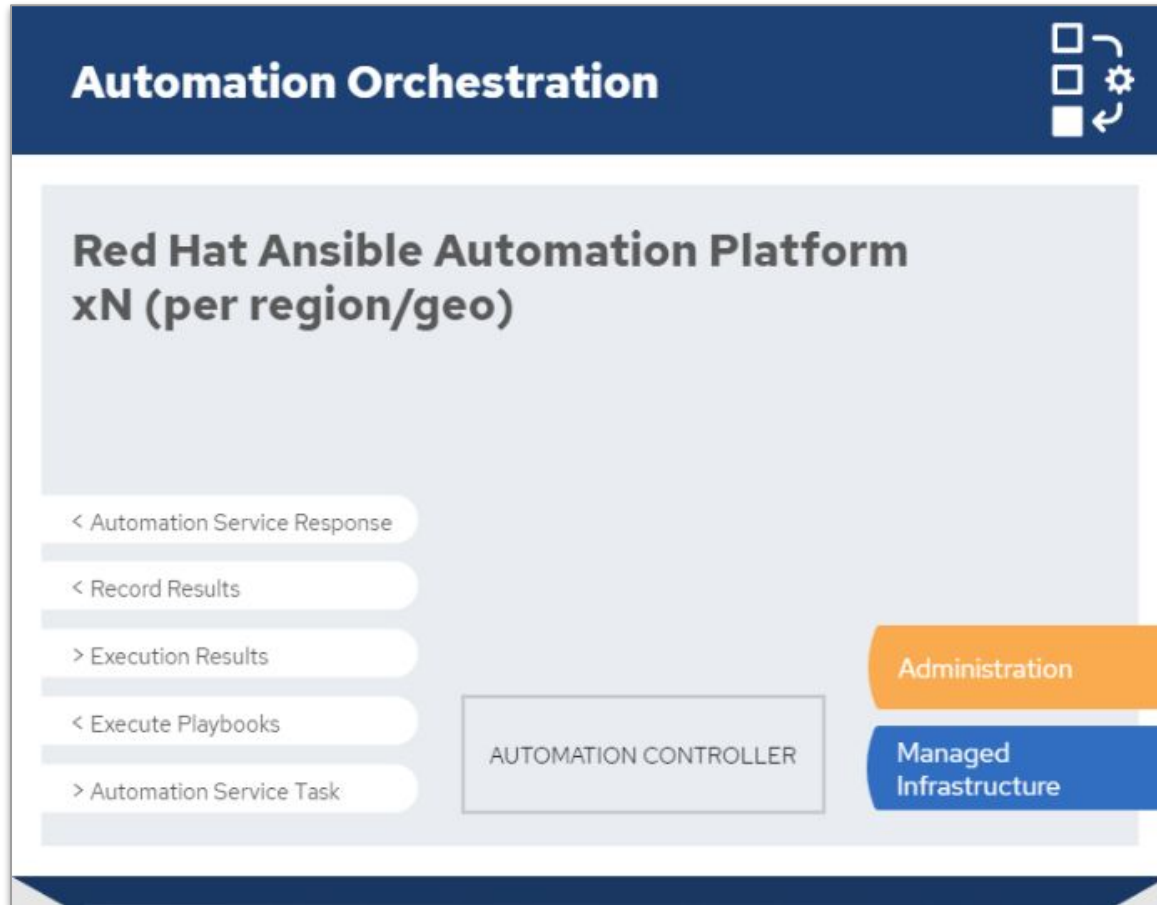
Schematic - Event Driven Automation (network)



Schematic - Event Driven Automation (data)



DETAIL: Automation Orchestration



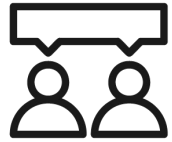
Ansible Automation Platform is the foundation for building and operating automation services at scale

- Ansible’s automation controller receives the service task from the automation microservice, and executes the job on the managed hosts
- Results are then recorded and further integrated into the customer’s in-house ticketing system
- Individual authorized users can even roll out remediation along with their normal automation workflows on their parts of the infrastructure on their schedule

Patterns

Red Hat Architectures and Patterns

Providing benefits to multiple needs



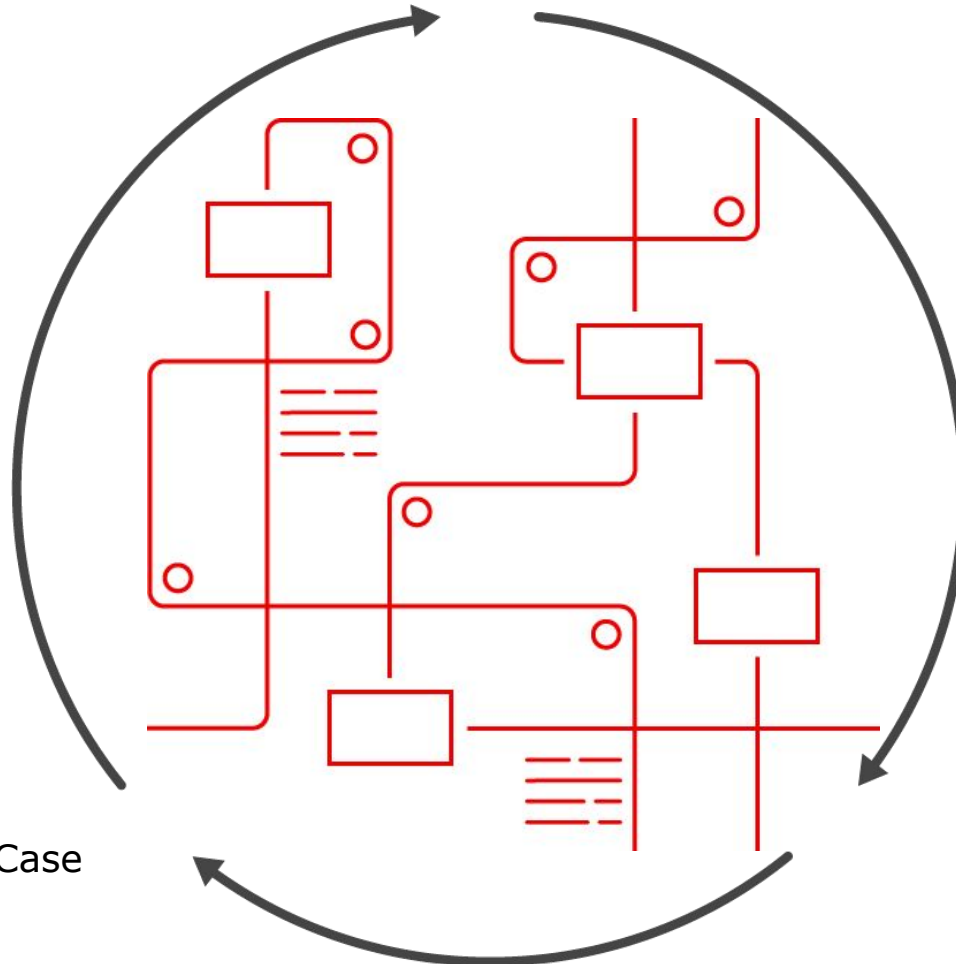
Executives

Business Value Selling
Reduced Risk
Modularity to Target Needs



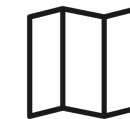
Practitioners

Quick PoC
Validated Architecture
Aligned with Business Use Case
Streamlined Deployment



Partners

Validated Architecture to Build Upon
Easy Partner Entry Points
Joint Deployment and Promotion



Shared Services

Instant Architecture to start with
Common Deployment Framework
Solution Starting Point



Red Hat

Driving Co-Innovation by automating collaboration

This demands consistent verification for solving business problems

Automated deployment at scale

Ensure your teams are ready to operate at scale using this modular deployment framework

Open for Collaboration

Anyone can suggest improvements and contribute as the framework is deployment framework is open source

Maintained over time

Each use case has a lifecycle to ensure they are kept up to date while they are being used

Highly Reproducible

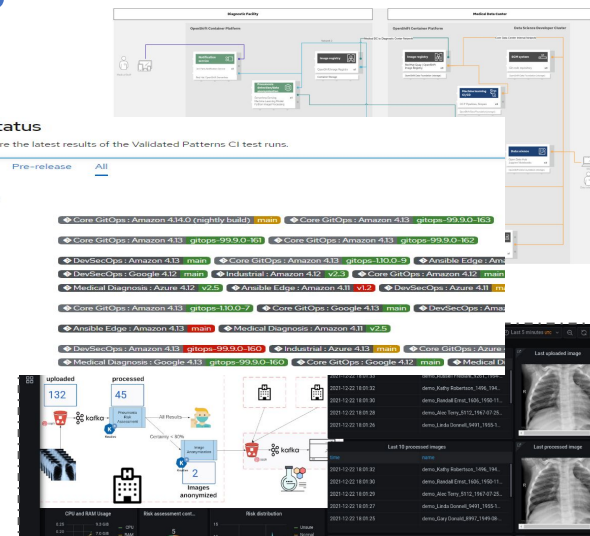
So that you can scale out your deployments with consistency

Tested as a use case

Confidence the configuration continues to work as the testing is intended to exercise the services within the use case as compared to just install

Configuration as code









Go beyond documentation using GitOps process to simplify deployment







Validated Patterns



Currently available library

Tested Validated Patterns:

-  [Connected Vehicle](#)
-  [Retail Edge](#)
-  [Multicloud DevSecOps](#)
-  [Emerging Disease Detection](#)  
-  [CockroachDB](#) 

-  [Kong Gateway](#)® 
-  [Zero Trust](#)
-  [MCG with Portworx](#)® 




In Progress

-  [Fraud Detection](#) 
-  [Hypershift](#)
-  [Telco 5G RAN](#)
-  [Ansible Deployment](#)
-  [Takebishi Gateway](#) 




Maintained Validated Patterns:

-  [Industrial Edge](#) 
-  [Medical Diagnosis](#) 
-  [Multicloud GitOps](#)
-  [Ansible Edge GitOps](#)

Partner Testing

-  [Nutanix CI Testing](#) 
-  [Intel AMX](#) 

<https://red.ht/VPSIG>

-  = **Partner Engaged**
-  = **Customer Engaged**
-  = **AI Showcased Patterns**



Solution Patterns

Demonstrable solutions to can solve common challenges, scenarios and use cases



MORE INFORMATION



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Red Hat architecture and design patterns

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